

RADIO FOR THE BLIND

Hv1779
R33 1922



M.C. MIGEL LIBRARY
AMERICAN PRINTING
HOUSE FOR THE BLIND

RADIO FOR THE BLIND

HV1779

R

Copy One

AN ARTICLE in *The Wireless Age* (New York) by Ward Seeley tells what is being done to bring the benefits of radio to the more than fifty thousand blind persons in the United States. We read:

"The major difficulty of furnishing radio for the blind is the cost. The majority of the blind are impecunious, and the institutions in which some of them work or live likewise are struggling. Nevertheless, many sightless men and women today are living as they never lived before the radiotelephone became a reality.

"Charles Burrows, a Civil War veteran and a leader in the fast-disappearing G.A.R., has a receiving set, and recently, when William Wade Henshaw sang at WJZ, wrote the following letter:

"As one of the vast audience which listened to the 'Impresario' last evening, I gladly accept your invitation to let you know something of my impressions.

"I could bear everything distinctly and with so great a pleasure that I was frequently tempted to join the applause, forgetting for the moment that I was more than eight miles distant. It needed only the sight of the artists to complete one's enjoyment. That enjoyment I can not have by reason of blindness, but thanks to the radio apparatus I have had the pleasure of bearing many things, and none more delightful than your rendering of the 'Impresario,' for which I thank you, and ask you to convey my thanks to each member of your company."

"Another blind person, Miss Leila Holterhoff, of New York City, who has pursued her education to the point of taking a medical degree, and who is prominent in welfare work, stated to *The Wireless Age*: 'I believe that the radiophone will be the greatest single force in history in ameliorating the condition of the blind.'

"Not only are individuals profiting from radio through the ownership of sets, but institutions likewise are making use of broadcasting. So far, comparatively few have been able to secure receiving sets, as \$250, the cost of an average set complete with a loud speaker, is a great deal of money to an organization that is continually begging in order to pay its running expenses.

"Probably the first organization for the blind, at least in New York City, to make systematic use of radio was the N. Y. Guild for the Jewish Blind, which in September secured a modest crystal set and a single tube set, and conducted code classes for blind boys, who learned to copy commercial messages, including the various wireless press services. This was the most popular course of the institution, and is to be much expanded, using the Newark, Schenectady and New York broadcasting services as a basis, as soon as a donor can be found to contribute a loud speaker.

"The other homes and workshops for the blind in New York City likewise intend to install apparatus. Most of them have secured promises of sets from various sources. In the meantime several blind boys have built their own crystal sets, which are operating entirely satisfactorily.

"The same situation exists in the other large cities. The Maryland Institute for the Blind, in Baltimore, already has a set, and daily concerts from it are part of the curriculum. The paid readers in the Industrial Home in Chicago and at Jacksonville, Ill., are to be replaced by receiving equipment. From all parts of the country the sightless eyes of the blind are being turned hopefully to radio.

"Undoubtedly the greatest blessing to humanity occurring in this era is the use of radio equipment by blind persons," says Charles E. Comstock, of the Illinois State Department of Public Welfare.

"Radio has become the all-seeing omnipresent eye of the blind."



By courtesy of "The Wireless Age," New York.

"IT NEEDED ONLY THE SIGHT OF THE ARTIST TO COMPLETE ONE'S ENJOYMENT."

Said Charles Burrows, a blind Civil War veteran here seen at his receiving set. Radio, which many institutions for the blind now use, has been called "the all-seeing, omnipresent eye of the blind."

THE NEW LANGMUIR

POWER TUBES—"New applications of radio," says the *New York Evening World*, "are heard of daily, but the newest radio invention of consequence remains the 20-kilowatt tubes, the most powerful known, which their inventor, Dr. Irving Langmuir, Assistant Director of the General Electric Research Laboratory, recently showed to Senator Guglielmo Marconi on his visit to Schenectady. When Senator Marconi sailed on his yacht, *Eletra*, for England, he had one of the tubes, as a gift, installed in his radio room on the yacht, along with another gift, the latest radio-receiving apparatus." Some interesting

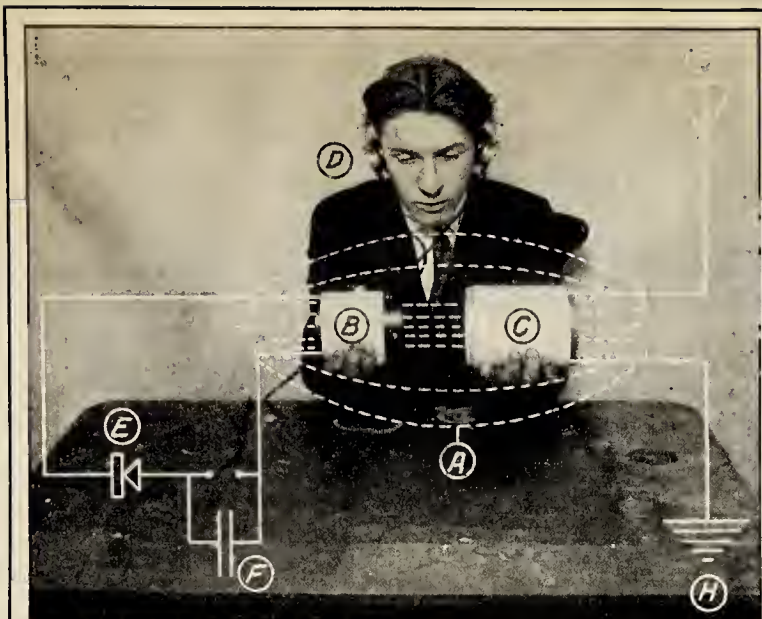
information concerning the more powerful tubes now in use here and in Europe is contained in this *Evening World* article. Senator Marconi thinks the tubes of the Langmuir type will eventually take the place of the Alexanderson alternators now in use, as they are both more simple and more economical. We read:

"As is well known, radio transmission in Europe is largely by use of a 4-kilowatt tube, altho Bordeaux uses the arc method, and other stations use the more effective Alexanderson alternators controlled by the Radio Corporation of America.

"The Alexanderson alternators are powerful, one of them generating a 200-kilowatt current; two of them synchronized, 400 kilowatts, as was recently demonstrated in tests for Senator Marconi at the Rocky Point, L. I., transmission station of the Radio Corporation of America.

"The tubes, which Senator Marconi prophesied are to take the place of the alternators, have their advantages in simplicity and economy. Ten 20-kilowatt tubes hitched together will take the place of one of the alternators, and if one tube becomes defective, or if all of them are destroyed, is a simple operation to replace them. The impairment of one of the great alternators might mean the shutting down of a transmission station, equipped with only one alternator, for weeks.

"Senator Marconi declared that a 75-kilowatt tube had been produced in England, but that it had not been found practicable. The Langmuir tube is easily the most powerful in the world, and Dr. Langmuir hopes to build others of greater kilowattage."



Illustrations by courtesy of "Popular Radio," New York.

MAGNETIC ENERGY CIRCULATING AROUND THE RECEIVING COILS.

As the lines of force would look if visible: (A) the lines of force generated by the primary coil (C) which induce currents in the secondary coil (B). (D) the head telephones; (E) the crystal detector; (F) the first telephone condenser; (G) the antenna; and (H) the ground connection.

HOW RADIO CIRCUITS ARE COUPLED AND TUNED

THE NOVICE who has purchased a receiving apparatus of which the tuning device is a loose coupler, is sometimes puzzled by the observed fact that there is no wired connection between the primary and secondary coils of this instrument. And even the more experienced operator, if he chances not to have an elementary knowledge of electricity, may not clearly understand how the energy of the message-bearing current in the antenna circuit is transferred to the secondary circuit, as it must be in order to influence the detector and telephones. The matter is very clearly explained in an article in *Popular Radio* (New York) by the technical editor of that periodical, Laurence M. Cockaday, who presents also graphic diagrams that are highly informative. Every user of a radio-receiving apparatus who has not a perfectly clear notion as to just what he is doing when he "tunes" his instrument may advantageously read Mr. Cockaday's interpretation, as here quoted:

"Radio currents of high frequency are usually generated in some form of closed circuit, which is tuned by varying either the inductance or the capacity in the circuit or both. These currents must, however, be supplied to the antenna circuit, in some way or other, before they can be used for the propagation of Hertzian or radio waves through space, thus making possible radiotelegraphy and telephony.

"The device used for this purpose is called a 'transformer.' When it is used for transmitting, it is usually called an 'oscillation transformer,' and when used in a receiving set, it is known as a

ing rotates, and by rotating the knob on the set which is attached to this coil, the coupling is varied. The reader will now understand what he is doing when he varies the coupling on his set.

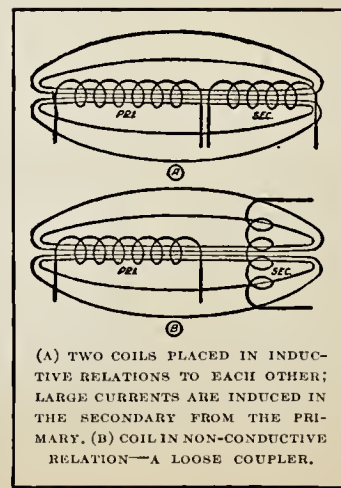
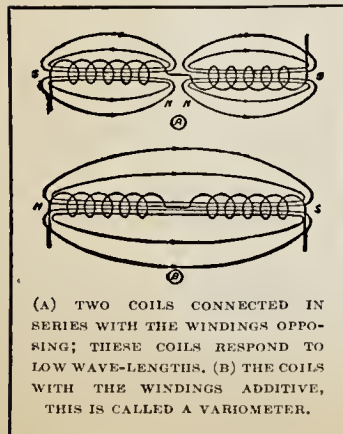
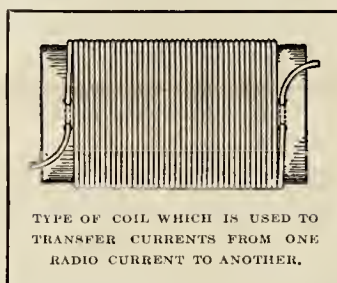
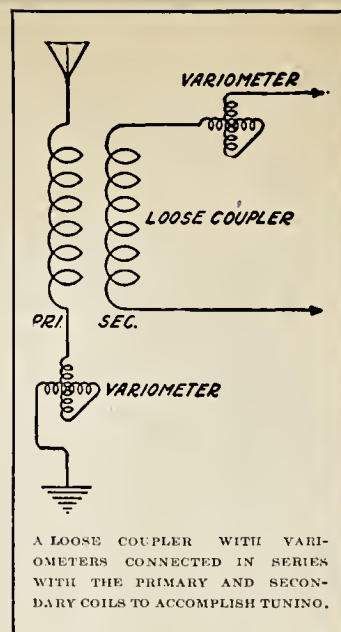
"In some sets the secondary coil slides in and out of the primary coil, and the coupling is varied in this way. When the secondary coil is in a position that allows all of the magnetic flux to flow through it, the two circuits thus coupled are said to be 'closely coupled,' and when the secondary coil is placed in a position that allows little or no magnetic flux to flow through it, they are 'loosely coupled.' When a transmitting or a receiving set is coupled loosely to the antenna circuit, it sends out a sharper wave or receives with much sharper tuning than a set that is closely coupled.

"A variometer, which consists of two coils connected in series, is often used for tuning a circuit. One coil is stationary and is called the 'stator'; the other coil rotates inside it and is called the 'rotor.' In using this device to tune a circuit, when the coils are rotated so that the electromagnetic fields of the two coils are opposing, the two fields acting against each other do not allow any electromagnetic energy to be stored up, or in other words their mutual induction is theoretically zero.

"A coil of this type set in this position would respond to very low wave-lengths. If the rotor be turned so that its field be additive with the stator, the two fields will act with each other to store up electromagnetic energy, and the mutual induction will be at a maximum. In this position the variometer will respond to a high wave-length.

"By slowly rotating the rotor from the first position to the last-mentioned position, the variometer can be used for tuning and will pass through the various wave-lengths that it is designed to listen in on.

"Thus we see how the coil is used in radio circuits, and that it serves the double purpose of tuning the circuits while at the same time it couples them together, or transfers the electricity from one circuit to the other."



HV1779
R

c. 1

Radio for the blind.

Date Due

HV1779
R

c. 1

AUTHOR

Radio for the blind.

TITLE

DATE DUE

BORROWER'S NAME

Reference Copy



